

## DEPARTMENT OF TRANSPORTATION

### Research and Special Programs Administration

#### 49 CFR Parts 192 and 195

[Docket No. RSPA-98-3783; Amendment 192-86; 195-67]

RIN 2137-AB38

### Pipeline Safety: Qualification of Pipeline Personnel

**AGENCY:** Research and Special Programs Administration (RSPA); Office of Pipeline Safety (OPS).

**ACTION:** Final rule.

**SUMMARY:** This final rule requires pipeline operators to develop and maintain a written qualification program for individuals performing covered tasks on pipeline facilities. The intent of this qualification rule is to ensure a qualified work force and to reduce the probability and consequence of incidents caused by human error. This final rule creates new subparts in the gas and hazardous liquid pipeline safety regulations. It establishes qualification requirements for individuals performing covered tasks, and amends certain training requirements in the hazardous liquid regulations. This final rule was developed through a negotiation process.

**DATES:** This final rule will be effective on October 26, 1999.

#### FOR FURTHER INFORMATION

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about the RSPA Office of Pipeline Safety can be obtained by accessing OPS's Internet home page at <http://ops.dot.gov>.

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#### I. Introduction

Although no regulatory program is capable of completely eliminating human error, the objective of this final rule is to reduce the risk of accidents on pipeline facilities attributable to human error. This final rule for the qualification of individuals is intended to provide an additional level of

safety. This final rule does not replace existing qualification requirements in 49 CFR Part 192. However, it does remove the operations and maintenance training requirements of 195.403. The final rule does not diminish the importance of the safety requirements already in the pipeline safety regulations. These include requirements for safety design features, such as relief valves and over-pressure protection devices, to provide protection against human error and other causes of incidents and accidents.

The final rule requires operators of pipelines to develop a qualification program to evaluate an individual's ability to perform covered tasks, and to recognize and react to abnormal operating conditions that may occur while performing covered tasks.

The final rule also sets record-keeping requirements that operators must follow to successfully demonstrate compliance, and the information that must be maintained on each individual who has been evaluated and deemed qualified to work on a pipeline facility. Finally, the final rule specifies the deadlines by which operators must develop and implement their qualification programs.

This final rule allows operators with existing programs to modify those programs if necessary to ensure compliance with the minimum requirements of this final rule. The final rule also requires operators without a qualification program to establish a program to evaluate the qualifications of individuals performing certain operation and maintenance activities on those pipeline facilities that could affect pipeline operation or integrity.

This final rule establishes a new Subpart N in 49 CFR Part 192 and a new Subpart G in 49 CFR part 195. The final rule amends the training regulations in 49 CFR 195.403. The emergency response training requirements remain as they appear in 49 CFR 195.403.

#### II. Statutory Authority and Regulatory History

Sections 106 and 205 of the Pipeline Safety Act of 1992 (Pub. L. No. 102-508) required the Department of Transportation to establish regulations requiring that "all individuals responsible for the operation and maintenance of pipeline facilities be tested for qualifications and certified to operate and maintain those facilities."

On August 3, 1994, RSPA published a notice of proposed rulemaking to establish specific training requirements for the qualification of pipeline workers (59 FR 39506). This proposal would have introduced qualification standards for personnel that perform, or supervise persons performing, regulated operations, maintenance, and emergency response functions. The purpose of the proposal was to improve pipeline safety by requiring operators to ensure the competency of pipeline personnel through training, testing, and periodic refresher training.

In response to this notice, RSPA received 131 comments that expressed a wide variety of interests and concerns. Most commenters asserted that the proposal should have taken a more general approach to qualification with broad requirements for persons performing "safety related" functions. Commenters stated that the proposal was too prescriptive and that the many references to training requirements should be modified to focus the proposal on actual qualification, rather than on the method(s) of achieving qualification.

OPS' technical advisory committees, the Technical Pipeline Safety Standards Committee and the Technical Hazardous Liquid Pipeline Safety Standards Committee, disapproved of the proposal. These Committees passed several motions for amendments to the proposal. These motions were generally consistent with the written comments.

Subsequently, the Pipeline Safety Act was amended to require that "all individuals who operate and maintain pipeline facilities shall be qualified to operate and maintain the pipeline fa-

cilities" (49 U.S.C. 60102(a)). This Act also requires that the "qualifications applicable to an individual who operates and maintains a pipeline facility shall address the ability to recognize and react appropriately to abnormal operating conditions that may indicate a dangerous situation or a condition exceeding design limits" (49 U.S.C. 60102(a)).

Following review of the comments to the 1994 proposed rulemaking, as well as recommendations by the Technical Advisory Committees, and a petition for withdrawal and alternative proposal submitted collectively by the American Gas Association, the American Public Gas Association, and the Southern Gas Association, RSPA decided that a regulatory process other than traditional rulemaking would better address the issues surrounding operator qualifications. Consequently, RSPA issued a Notice of Withdrawal of the 1994 proposed rulemaking (61 FR 34413; July 22, 1996) and simultaneously issued a Notice of Intent to form a negotiated rulemaking committee to develop a final rule on the qualification of pipeline personnel (61 FR 34410; July 22, 1996).

### III. Negotiated Rulemaking

RSPA understands that effective regulatory solutions to certain issues can be difficult for an agency to craft. In the typical rulemaking process, the participants often develop adversarial relationships that prevent effective communication and creative solutions. Exchange of ideas that may lead to solutions that are acceptable to all interested groups does not often occur in the traditional notice and comment rulemaking procedure.

Negotiated rulemaking is conducted under authority of the Negotiated Rulemaking Act of 1990 and the Federal Advisory Committee Act. The process involves assembling representatives of the affected interests to discuss a particular issue and all potential solutions. The goal was to reach consensus and prepare a pro-

posed rule for consideration by the agency. On February 22-23, 1999, the group reconvened to review received comments and make recommendations for the final rule. This inclusive process was intended to make the rule more acceptable to all affected interests and minimize the likelihood of petitions for reconsideration and litigation.

RSPA believed that the negotiated rulemaking process would provide ample opportunity for all affected parties to present their views and to reach a consensus on a proposed qualification rule. Negotiated rulemakings have been used successfully by the Department of Transportation, including the Federal Aviation Administration, the United States Coast Guard, the Federal Highway Administration, the National Highway Traffic Safety Administration, and the Federal Railroad Administration. In addition, the Environmental Protection Agency, and the Occupational Safety and Health Administration have successfully used the process.

#### *A. Members of the RSPA Negotiated Rulemaking Committee*

The Federal Mediation and Conciliation Service (FMCS) served as the convenor and facilitator for the RSPA Negotiated Rulemaking Committee (Committee). FMCS chaired the negotiations, offered suggestions in attempting to reach the desired consensus, and helped determine the feasibility of negotiating particular issues. From the beginning of this process, RSPA met with FMCS on several occasions to discuss the issues that needed to be addressed and the interests that needed to be represented on a Committee. After a comprehensive search, RSPA selected the following organizations, representing broad interests, to serve on the Committee:

1. *American Gas Association (A.G.A.)*: represents a large number of gas distribution and a few transmission companies in the pipeline indus-

try. A.G.A. members consist of both large and small operators.

2. *American Petroleum Institute (API)*: represents the interests of the hazardous liquid pipeline companies. API is the major trade association in the petroleum industry, and also represents the interests of operators of other hazardous liquid pipelines.

3. *Interstate Natural Gas Association of America (INGAA)*: represents the interests of the larger interstate gas transmission pipeline companies in the natural gas transportation industry. INGAA consists mainly of the larger interstate gas transmission pipelines.

4. *American Public Gas Association (APGA)*: represents publicly-owned and municipal gas companies. Although these public companies are generally small, they operate a large number of the distribution pipelines in American cities and suburbs.

5. *National Propane Gas Association (NPGA)*: represents the interests of propane marketing and distribution at the local level. NPGA is made up of both large and small companies.

6. *Association of Texas Intrastate Natural Gas Pipelines*: represents the interests of intrastate natural gas transmission pipelines.

7. *Midwest Energy Association (MEA)*: represents over 300 investor-owned utilities, municipal utilities, contractors and manufacturers. MEA brought considerable expertise in pipeline personnel training issues.

8. *NACE International, The Corrosion Society (NACE)*: an organization of corrosion experts. NACE works primarily on issues of corrosion and corrosion control systems.

9. *National Association of Pipeline Safety Representatives (NAPSR)*: represents state pipeline safety programs. Many of these organizations will incorporate the final rule on operator qualifications into their pipeline safety program.

10. *National Association of Regulatory Utility Commissioners (NARUC)*: represents the interests of

the state utility commissioners, who regulate gas rates and terms of service in most of the fifty states.

11. *National Association of State Fire Marshals (NASFM)*: represents the interests of state fire officials in state safety programs and the issue of qualification for emergency response.

12. *International Union of Operating Engineers (IUOE)*: represents the interests of a substantial number of pipeline construction and maintenance workers.

13. *International Brotherhood of Electrical Workers (IBEW)*: represents over 21,000 gas industry workers.

14. *Office of Pipeline Safety (OPS)*: served as the representative of RSPA, and the Designated Federal Official on the Committee.

#### *B. Negotiated Rulemaking Committee Ground Rules*

Most of the procedures and protocols followed in the negotiation were established by the Committee. A set of Committee "ground rules" was developed by participants at the initial meeting. Issues discussed and agreed upon by the Committee included: how discussions would be conducted, possibility of subgroups to work on particular issues, expectations of Committee members, the Committee's role throughout the rulemaking process, audience participation, and other topics. The following are some of the more significant ground rules established by the Committee:

1. **Membership**: All organizations were allowed one seat at the table, and permitted to name one alternate to serve in their absence.

2. **Good faith**: All participants were expected to act in good faith on behalf of their organization. OPS agreed to issue the Committee's proposed rule as long as it was not in conflict with any other legal requirements. In turn, the Committee agreed to support the proposal following publication in the **Federal Register**. It was agreed that the Committee would

be actively involved through publication of the final rule.

3. **Conduct of meetings**: Committee members reserved the right to bring constituents to the table to address the Committee, and could quietly consult with constituents during the course of the negotiation. All meetings were open to the public. The Committee agreed that there would be time scheduled on every meeting agenda for comment by the audience.

4. **Public Record**: RSPA kept a record of all Committee meetings. This record was placed in the public docket (Docket No. PS-94) and is publicly available.

5. **Consensus**: The goal of the negotiating process is consensus. The Committee developed its own definition of consensus for the purposes of this rulemaking, which was as follows: "A decision which all members or designated alternates present at the meeting can agree upon. The decision may not be everyone's first choice, but they have heard it and everyone can live with it."

#### *C. Committee Meetings*

The Committee convened a total of eight times between May 1997, and February 1999. Each negotiating session lasted a minimum of two days, with two sessions convening for two and a half days. These meetings resulted in an NPRM which was published in the **Federal Register** on October 27, 1998, (63 FR 57269). The Committee reached final consensus on the final rule in its last meeting in February 1999.

### **IV. Discussion of Comments in Response to NPRM**

#### *General Comments*

RSPA received 41 comments to the NPRM. Comments were received from nine pipeline-related trade associations, 25 pipeline operators, two state government agencies, two union organizations, two independent or-

ganizations, and the National Transportation Safety Board. Most commenters expressed support for the rule.

Four commenters questioned the need for an operator qualification rule. They said there is no evidence in the pipeline industry's safety record to demonstrate the need for what they alleged would be a new administrative burden. Another commenter expressed that it is inappropriate to add a new subpart to the pipeline safety regulations. However, RSPA was mandated by Congress to develop qualification requirements in several pipeline safety reauthorization actions, most recently in 1996. The mandate was supported by several entities, including many state government agencies, the National Transportation Safety Board, and others.

In addition, seven out of the 14 members of the Committee that developed this rule represented various parts of the gas and hazardous liquid pipeline industry. The Committee agreed to focus the rule on the requirements of the 1996 Act, which called for the establishment of "qualification" requirements rather than "training and certification" requirements that were mandated in the 1992 Pipeline Reauthorization Act. RSPA believes the proposed rule addresses the intent of the 1996 Act.

One commenter said that the goal of the rule could be better served by implementing general language into the pipeline safety regulations, such as "all tasks required by Part 192 will be carried out by qualified individuals." RSPA disagrees that this language would be sufficient to ensure a qualified work force. This ambiguous language would not satisfy the requirements called for in the 1996 Act.

A pipeline industry trade association recommended that RSPA conduct a formal cost-benefit analysis as described in the 1996 Act. A cost-benefit analysis was performed and is a part of the public docket. RSPA is statutorily required to prepare a cost-benefit analysis, even if a rule is de-

veloped by a negotiated rulemaking committee. RSPA worked closely with the Committee on the regulatory analysis section of the rule.

Another commenter said that RSPA did not adequately consider the burdens imposed on the operator resulting from responsibility for contractor qualification, and asked that RSPA exempt operators from qualifying contractors. Another commenter noted that pipeline contractors with in-house safety training will suffer because different pipeline companies will have different qualification plans. As is the case with all pipeline safety regulations, responsibility for compliance lies with the pipeline operator. RSPA does not have regulatory jurisdiction over pipeline contractors. However, to ensure the qualification of the many contractor personnel that work regularly on pipelines, the proposed rule covers all operator employees, contractors, sub-contractors, or any other entities working on behalf of the operator.

One commenter suggested that RSPA facilitate the development of a "model qualification program," to assist small operators, and to provide outreach and explanation of the rule to pipeline contractors and sub-contractors. Another commenter said that RSPA should not require compliance with "model" or "industry standard" qualification programs. RSPA believes the spirit of this rule is to allow flexibility for operators to develop specific qualification programs for their unique systems, and that a compliance "model" would be inconsistent with the spirit of the rule. However, RSPA will be working with state government agencies, and pipeline industry groups to facilitate implementation of the qualification rule. RSPA believes cooperative efforts with affected parties will provide the necessary guidance for compliance with the rule.

One commenter said there should be provisions for "transitional allowances," in situations where merging operators have inconsistent qualifica-

tion programs. RSPA believes the time frames provided allow adequate time to resolve inconsistencies between qualification programs. Program modifications are inevitable in the case of company mergers. RSPA understands the problems that arise in the event of company mergers, and will work with operators on a case by case basis to ensure compliance with this rule.

Eleven commenters believed that the references to the existing authority of inspectors to evaluate the adequacy of qualification programs should be eliminated from the preamble of the final rule, because this authority "already exists." They insisted that existing procedures provide administrative processes for resolution of disagreements. The Committee discussed this issue at length, and agreed that the references should be retained to remind all affected parties that the increased flexibility provided in this rule does not limit the authority of oversight agencies.

There were several comments regarding the implementation of this rule, and on measuring performance. A commenter suggested that RSPA provide the following provisions to mitigate the financial impact on local government systems that must comply with the rule: (1) A federally sponsored and funded training program to be administered on a state/local level; and (2) federal funds necessary for local government compliance. RSPA provides federal funds in the pipeline safety grant program, which provides up to 50% of a state agency's program, if they are considered a "state partner" to RSPA. Additional training programs dealing with compliance with the rule are currently under development and will be open to all interested parties, including local government entities affected by the regulation. Further, federal guidance documents such as the revised version of the "Guidance Manual for Operators of Small Gas Systems" will help small operators achieve compliance. Also, two commenters suggested that RSPA develop a mecha-

nism(s) to evaluate the rule's effectiveness. RSPA plans to establish a periodic review with stakeholders regarding the effectiveness of the qualification rule.

Finally, eleven commenters said that language should be implemented in the preamble describing what process or procedure RSPA would use if it became necessary to revise the qualification rule. They suggested the following options: (1) Reconvene the Committee; (2) establish an industry/government task team; (3) hold public meetings and/or workshops; or (4) nominating stakeholders to form a peer review team. RSPA cannot predict what changes might be necessary for this rule in the future, but will periodically work with stakeholders to evaluate the effectiveness of this rule.

One commenter was concerned with the effect of the proposed rule on small operators, and suggested that RSPA provide guidance on compliance with the rule to assist small operators, and state pipeline safety inspection personnel. Another commenter believed master meter operators should be exempt from qualification requirements, because many master meter operators are small "mom and pop" operations. This commenter asked how these small operators would be able to evaluate qualification of the many contract personnel that work on their master meter systems.

The Committee discussed the issue of the effects of the rule on small operators and master meter systems, and agreed that special provisions would not be appropriate because the qualification of workers at both large and small pipeline operators can impact safety. Federal guidance documents such as the "Guidance Manual for Operators of Small Gas Systems" will be revised to help small operators achieve compliance. In addition, many training programs are currently under development by government organizations and members of the pipeline industry.

A commenter said RSPA should clarify how individuals involved in

emergency response, who do not perform covered tasks, would be subject to the qualification requirements. The Committee agreed not to re-write the qualification requirements of emergency response personnel. The rule applies only to personnel performing operations and maintenance activities.

#### *Comments to §§ 192.801/195.501—Scope*

One pipeline operator suggested the reference to gas control operations on page 57273 of the proposed rule be removed from the rule. This operator claimed that monitoring is related to market response and customer delivery, not overpressure protection, and would not necessarily be a covered task. RSPA believes that controlling gas would clearly have to be considered a covered task. Any handling of the noted "physical and mechanical devices" would require qualification. The example remains in the final rule.

Thirty commenters were concerned with a paragraph on page 57273 of the proposed rule dealing with tasks "performed pursuant to requirement in part 192 or 195," and the example of "calibrations and low-pressure shutdowns." These commenters believe this language directly conflicts with the rule language, which describes a covered task as one that is "performed as a requirement of this Part." The commenters noted RSPA added this paragraph to clarify the meaning of a covered task, but that it appears to expand the criteria for determining a covered task. These commenters also said that any references to "pursuant to" a requirement in the pipeline safety regulations should be revised to "as required by" to be consistent throughout the preamble and rule language. This paragraph was intended to provide further clarification of activities that would be considered covered tasks, but apparently caused confusion. RSPA has deleted the paragraph in the final rule.

Two commenters called for better guidance in identifying covered tasks.

For clarification, they believed the term "pipeline facility" should be defined in the rule, using the existing definition in the pipeline safety regulations. The definition of the term "pipeline facility" can be found in 192.3 and 195.2. These definitions apply generally to those subparts of the pipeline safety regulations. RSPA does not see any merit in adding the definition to the rule.

One commenter said the preamble should include a note of clarification to distinguish the term "task" from "covered task," as there could be some misinterpretation of the meaning of the term. RSPA agrees with this comment and has revised any appropriate references to "task" with "covered tasks" or replaced the term "task" with "activity."

Thirteen commenters expressed that under "Tasks affecting the operation or integrity of the pipeline," the term "could" should be deleted where used in the generic sense in column 1 of page 57273 of the proposed rule to match the language in the rule. RSPA agrees and has made this change in the final rule.

Fourteen commenters wanted clarification of the "examples" in the proposed rule used to describe the four-part test. These commenters said that the spirit of the rule is to provide operators with opportunity to identify covered tasks unique to their systems, but the discussion of "examples" imply that these examples would always be covered tasks under the rule. These commenters said the preamble should be revised to express that the "hypothetical examples," are not to imply that they would necessarily be covered for all operators. RSPA believes the term "hypothetical" speaks for itself. We believe no change is necessary.

One pipeline operator had many problems with various provisions and examples throughout the preamble. This operator incorrectly believed that the example dealing with leak surveys on page 57273 of the NPRM was inappropriate, because leak surveys do not

affect the operation or integrity of the pipeline. The commenter also incorrectly said use of the term “covered task” is unnecessary because a covered task is simply an operations and maintenance task. Activities such as painting a pipeline for appearance reasons would not require qualification. This operator also stated that the concept of a task not being covered when performed on an unattached pipeline component was confusing, and asked for clarification. The Committee decided that when pipeline facilities are not physically attached to the pipeline, work on these facilities should not be “covered,” such as a manufacturers repair work off site.

This operator also alleged that the preamble does not explain that the term “integrity” includes the potential long-term effects of an activity. Also, this operator did not believe the example dealing with the coating and jacking of pipelines was appropriate to illustrate the significance of tasks affecting the operation or integrity of a pipeline. RSPA disagrees with this commenter in all of these areas. The Committee discussed pipeline integrity considerably, and agreed that the examples used were appropriate. Therefore RSPA does not believe any changes are necessary.

*Comments to §§ 192.803/195.503—  
Definitions*

**Abnormal Operating Condition**

Fourteen commenters suggested that the preamble should state that the Committee determined that the current definition for “Abnormal Operation” in part 192 would not satisfy the provisions in the 1996 Act. These commenters also claimed that this definition could be read to require individuals to recognize and react to an abnormal operating condition that is unrelated to their expertise. RSPA believes that all persons performing covered tasks should be able to reasonably recognize and react to abnormal operating conditions while performing

their work. The current definition of “Abnormal Operation” in part 192 does not meet the requirements of the 1996 Act. Further, the Committee agreed that a separate definition would be appropriate for the purposes of this subpart.

One commenter said that the structure of Abnormal Operating Condition definition is unclear and inconsistent with the structure of other definitions. RSPA agrees and has revised the format of the definition to provide clarity.

**Evaluation**

Eleven commenters said that Note 1 of the table on page 57274 of the NPRM, should be clarified from “during the period between the effective date of the rule and the three-year compliance date” to “October 28, 2002.” RSPA agrees and has made the appropriate change in the final rule.

Twelve commenters said that RSPA should add the table to the rule language because the description in the preamble is not sufficient guidance for pipeline operators. RSPA does not believe the change is warranted because the rule language provides clear guidance. The table was included in the preamble for illustrative purposes only.

One commenter asked that RSPA clarify how operators should identify and document covered tasks during “transitional” qualification. The commenter said the reference to transitional qualification is confusing because no covered tasks are required to be documented for 20 months. It is clear that no worker may be qualified under this rule before an operator has established a qualification program, including a covered task list. Although a qualification program may be established at any time, it must be completed and documented no later than 20 months after the rule is published in the **Federal Register**. The use of the term “transitional” in the preamble to the rule merely highlights that current workers can be qualified

solely through use of a work performance history review only during the period ending 38 months after the rule is published.

**Qualified**

One commenter believed there was no need to define this term because it will lead to confusion and inconsistency with other regulations. However, the Committee agreed early in the negotiating process that this term should be defined for the purposes of this rule, so no changes have been made.

One commenter stated that RSPA may need to define “Operations and Maintenance” or designate which sections of parts 192 and 195 are covered by the proposed rule. The final rule describes covered tasks as those identified by the operator using the “four-part test.” This topic is discussed further in the discussion concerning identification of covered tasks, in particular operations and maintenance tasks. Therefore, RSPA does not believe that further description is warranted in the final rule.

*Comments to §§ 192.805/195.505—  
Qualification Program*

Two commenters did not agree with the language “contributed to an incident as defined in Part 191 of this chapter,” because it includes LNG facilities in the definition of “incident.” These commenters do not believe the scope of the rule should include individuals that work at or near LNG facilities. The scope section of this rule states that the regulation would cover only Parts 192 or 195 of the pipeline safety regulations.

Two commenters believed that there may be situations where a covered task is simple or repetitive enough that a required re-evaluation at any interval is not warranted. The commenters asked that this be noted in the preamble. The Committee discussed this issue at length, and agreed that simple repeti-

tion of a covered task does not ensure that the task is performed safely and properly. Appropriate intervals (as determined by the operator) will ensure that the person performing a covered task is continually qualified. Thus, RSPA does not believe a change is needed.

One commenter noted that the description of 192.805 allows operators to add to the seven required elements of their qualification program and makes clear that operators will not be held accountable for the qualification of personnel performing non-covered tasks. However, the commenter was concerned that attempts could be made to treat non-covered tasks included in a qualification program as if they were covered tasks. The commenter suggested that RSPA revise the preamble to emphasize that voluntary tasks included in a qualification program would not be treated as required covered tasks. RSPA believes the rule is clear as written. If a task does not meet the “four-part test” in §192.805 and §195.505, it is not covered task, even if voluntarily included in the qualification program.

*Comments to §§ 192.807/195.507—Recordkeeping*

No comments were received regarding these sections.

*Comments to §§ 192.809/195.509—General*

Thirteen commenters suggested that “18 months” should be changed to “20 months after publication of the final rule.” They also asked that RSPA change the final rule to clarify “three years” to “38 months from the publication date of the final rule.” RSPA agrees and has made the appropriate change in the final rule.

Thirteen commenters said that the language stating that a “qualification program would be effective for a minimum of 10 years” is confusing. Commenters suggested that RSPA remove the sentence because it could be sub-

ject to multiple interpretations. RSPA agrees and has made the change in the final rule.

*Comments to 195.403—Emergency Response Training*

A petroleum trade association supported the proposed revisions in 195.403, which would remove prescriptive O&M training requirements and provide consistency with gas regulations. However, the commenter suggested that the preamble clarify that hazardous liquid operators may modify or discontinue operations and maintenance training requirements only when the qualification rule is fully implemented. RSPA agrees and has added language in 195.403 to reflect this change.

RSPA has implemented several other suggested grammatical corrections in the final rule.

*Comments to rulemaking analysis and notices*

RSPA worked closely with the Committee, as well as with several representatives in the pipeline industry when developing the rulemaking analysis. One commenter suggested RSPA should use simple annualized costs, rather than amortized costs. However, amortized costs more accurately reflect the costs incurred by the pipeline industry.

RSPA received several comments on the following paragraphs regarding Executive Order 12866:

“However, the impact of inadequate qualification of pipeline personnel is not always apparent. For example, incidents/accidents that operators attribute to equipment failure or corrosion may actually have been set in motion by poorly performed operation or maintenance procedures.” (63 FR 57276)

“In 1997, there were a total of 363 reportable pipeline incidents/accidents. Of these, 105 were directly attributable to human error.” (63 FR 57276)

“In fact, human error frequently is not cited as a contributing factor in incident/accident investigations, even though it is recognized that human error underlies nearly all pipeline failures to some degree.” (63 FR 57276)

“Perhaps the most important factor to consider when assessing the benefits of this proposal is that very few pipeline failures occur without some degree of human failure.” (63 FR 57277)

Twenty-two commenters contend that the above references are not reasonable. They request that RSPA describe its methodology used to reach these conclusions, and substantiate these statements with sufficient and credible data, or delete them.

These commenters did not agree that human error is a contributing factor to nearly all incidents. Further, human error is not always related to lack of qualification. The commenters suggested that RSPA remove or substantiate the “non-quantifiable benefits,” because they questioned the assumption that the rule will improve “work productivity and down-time.”

“[I]n 1997, there were 88 reportable incidents attributed to outside force damage in the natural gas pipeline industry. Although the data reflects outside force damage as the cause of the incidents, human error is inherently present in most outside force damage. For instance, the outside force damage may have resulted from a pipeline worker not following local one-call system procedures or from improper marking of the pipeline prior to excavation” (63 FR 57277).

Seventeen commenters expressed that this discussion is misleading and not supported by facts. They noted that the discussion referring to “the difficulty in quantifying the benefits of this proposed rule \* \* \*” were only made to narrow the gap between costs and benefits. They believe that these assumptions were not substantiated and should be deleted from the preamble. RSPA acknowledges that language was added to the NPRM after

the final review by the Committee. However, the cost/benefit section was not part of the negotiated discussion by the entire Committee during the development of this rulemaking. RSPA has nonetheless considerably revised this discussion to take into consideration the comments on this topic.

Two commenters argued that litigation costs may increase, not decrease, as a result of this rule. RSPA has removed the reference to litigation costs since it would be difficult to predict the effect of this rule on litigation costs.

Eighteen commenters expressed that DOT's reference to the 1994 gas pipeline incident in Edison, NJ is inappropriate. This incident was the result of illegal third party activity. They requested that DOT delete the paragraph. RSPA agrees with these commenters and has removed the reference in this final rule.

#### *Specific Comments on the Proposed Rule Language*

Several comments were received regarding the regulatory language. One commenter suggested that 192.801 does not need the phrase "as identified by the operator." Several industry representatives on the Committee wanted this clarification to highlight that the operator is responsible for identifying covered tasks. Therefore, RSPA has not made the suggested change to the final rule.

Ten commenters said that 192.803 should be changed by adding the phrase "that may reasonably be anticipated to be encountered while performing the covered task" to the end of item #2 in the definition of "Qualified" (63 FR 57278). The commenters believed this would be consistent with the language in the preamble and thus does not obligate pipeline personnel to know all types of potential abnormal conditions. The Committee discussed this issue and concluded that no change to the regulatory language is warranted.

Nine commenters suggested that 191.805(f) should have the word "substantive" between the words "communicate" and "changes". Commenters believed this change would make the rule consistent with the preamble (page 57275, 3rd column, 2nd full paragraph) where the term "substantive" is used and makes it clear that not every change must be communicated. This issue was discussed by the Committee, and RSPA does not believe change to the regulatory language is warranted.

Ten commenters noted that 192.809(a) should read "20 months" instead of "2018 months". This typographical error was corrected in this final rule.

Eleven commenters said 192.803 should be revised to clarify that the reference to "other forms of assessment" is distinct from "observation during" in the Evaluation definition. RSPA discussed this with the Committee and revised the rule to distinguish the term "observation" from "other forms of assessment."

The term "integrity" in the Scope sections is unclear. This issue was discussed by the Committee, and RSPA does not believe changes to the regulatory language are warranted.

One commenter suggested that section 192.809 be revised to allow extra time for operators to ensure qualification of contractor personnel. This issue was discussed by the Committee, and RSPA does not believe changes to the regulatory language are warranted.

One commenter suggested that an additional section be inserted in the rule to measure the performance of the qualification rule. RSPA plans to establish a periodic review with stakeholders regarding the effectiveness of the qualification rule. RSPA does not believe changes to the regulatory language are warranted.

#### **V. Scope**

The Accountable Pipeline Safety and Partnership Act of 1996 required

RSPA to adopt regulations requiring that "all individuals who operate and maintain pipeline facilities shall be qualified to operate and maintain the pipeline facilities" and "shall address the ability to recognize and react appropriately to abnormal operating conditions that may indicate a dangerous situation or a condition exceeding design limits" (49 U.S.C. 60102(a)). The Committee determined that a national qualification program conducted by RSPA, another federal agency, or a state agency, would not be an appropriate or practical response to the 1996 Act. Such a system offers the advantages of national consistency, including the ability of contractor employees to work for different operators under a single qualification regime. However, it was determined that the complexity and cost of administering such a system, coupled with the difficulty of devising a system appropriate for the wide variations in the operations and maintenance procedures and facilities of individual operators, precluded this from being an effective option.

The Committee determined the mandate would best be met by a non-prescriptive, performance based regulation requiring each operator to develop, or have developed, a written program for the qualification of individuals. This would allow each program to be tailored to the unique operations and practices of each operator.

#### *A. Persons Covered by the Final Rule*

This final rule applies to operators subject to the requirements of 49 CFR parts 192 or 195. The rule applies to all individuals who perform covered tasks, regardless of whether they are employed by the operator, a contractor, a sub-contractor, or any other entity performing covered tasks on behalf of the operator.

#### *B. Operators are Responsible for Identifying Covered Tasks*



Under this final rule, the operator is responsible for identifying which activities performed on the pipeline facility are covered tasks. The process for identifying covered tasks is set forth in 49 CFR 192.801 and 195.501 (“Scope”) of this final rule.

The Committee discussed whether the regulator or the operator should be responsible for identifying covered tasks. Because of large differences between operations of pipelines across the country, a uniform list of covered tasks would not be useful, and could result in overall increased costs. For example, some operators do not have transmission lines in their systems, others operate only distribution lines, and others do not have compressors, pump stations, or storage facilities. Some operators perform a large number of covered tasks, while other, smaller, operators may have only a limited number of tasks that must be classified as covered tasks.

Identification of covered tasks is a key component of the qualification requirements under this final rule. The Committee proposed that it would be more effective and practical to let each operator determine the covered tasks requiring qualification.

However, some Committee members were concerned that if operators are allowed to determine the covered tasks, the final rule should also ensure that the regulators retain the authority to review each operator's determinations. Some Committee members objected to allowing each operator to identify covered tasks requiring individuals to be qualified. These members objected to the use of the words “determined by,” which could be interpreted to preclude regulators from questioning the operator's identification of covered tasks. The Committee decided to use the words “identified by” to mean the selection of covered tasks by the operator. The Committee concluded that the authority to allow pipeline safety regulators to require modifications to programs that fail to meet regulatory requirements was already within the scope of federal and

state jurisdiction, as was the authority to question particular activities included as covered tasks by the operator. The Committee concluded that covered tasks would be activities identified by the operator.

Therefore, under this final rule, the operator of a pipeline facility is responsible for identifying which activities performed on that facility are covered tasks. The criteria for identifying covered tasks on gas and hazardous liquid pipelines is set forth in 49 CFR 192.801 and 195.501, respectively.

Although operators are responsible for identifying covered tasks for which individuals must be qualified, regulators remain responsible for reviewing operator qualification programs and ensuring that federal regulatory standards are applied and met nationwide. Regulators may question an operator's inclusion and exclusion of particular activities as covered tasks. Regulators may require modifications to programs that fail to meet the requirements of the rule.

#### *B. Identification of Covered Tasks*

The final rule includes a four-part test that each operator must use to determine whether an activity constitutes a covered task. A covered task is: (1) Performed on a pipeline facility; (2) an operations or maintenance task; (3) performed pursuant to a requirement in 49 CFR part 192 or 195; and (4) affects the operation or integrity of the pipeline.

1. *Tasks Performed on a Pipeline Facility.* The phrase “performed on a pipeline facility” means an activity that is performed by an individual whose performance directly impacts the pipeline facility. An individual who works on a pipeline component that is physically connected to the pipeline system is performing work “on a pipeline facility” and may be subject to the final rules, regardless of whether or not product is flowing through the pipeline. However, a person who repairs a pipeline system or appurtenance, that has been removed from the

system, would not be performing work on the pipeline, and therefore would not be performing a covered task.

2. *Operations or Maintenance Tasks.* The Federal pipeline safety law requires that all individuals who operate and maintain pipeline facilities be qualified to operate and maintain those facilities (49 U.S.C. 60102(a)(1)(C)).

Most of the operations and maintenance activities on pipeline facilities are found in 49 CFR part 192, subparts L and M, or in 49 CFR part 195, subpart F. In addition, the regulations contain other subparts that include requirements for conducting operations and maintenance activities. For example, part 192, Subpart I, establishes requirements for protecting metallic pipelines from external, internal, and atmospheric corrosion. The requirements to monitor corrosion control systems are operations activities. The requirements to take corrective action when deficiencies are found in a corrosion control program are maintenance activities. Therefore, repairing pipelines affected by corrosion is also a maintenance activity.

Certain tasks performed on pipeline facilities may be covered tasks when performed in the course of operation and maintenance activities, but may not be covered tasks in the course of other activities. For example, “welding” could be a covered task when performed as an operations and maintenance activity on a pipeline, such as when installing a weld-over sleeve to repair an anomaly. However, “welding” is not a covered task under this subpart when performed during the fabrication of new installations, because this would not be an operations and maintenance task.

However, welders are currently subject to qualification requirements in 49 CFR part 192, Subpart E, and Part 195, Subpart D. To comply with the final rule, welders would have to be additionally qualified to recognize and react to abnormal operating conditions when welding as a covered task. This also applies to other activities such as

“plastic pipe joining,” for which the regulations contain specific requirements.

3. *Tasks Performed Pursuant to a Requirement in 49 CFR Part 192 or 195.* Covered tasks include only those operations and maintenance activities required by 49 CFR Part 192 or 195.

Examples of covered tasks might include:

- purging a pipeline because it is specifically required by 49 CFR 192.629;
- leakage surveys of distribution lines, required by 49 CFR 192.723;
- starting, operating, and shutting down gas compressor units, because 49 CFR 192.605(b)(7) specifically requires written procedures on these activities, to provide safety during maintenance and operations;
- inspection of navigable water crossings under 49 CFR 195.412; and
- inspection of breakout tanks required by 49 CFR 195.432.

Operators of pipeline facilities may voluntarily conduct operations and maintenance activities that are not required by a specific provision in 49 CFR parts 192 or 195. However, an activity does not necessarily become a covered task simply because an operator develops procedures for conducting the activity, and includes those procedures in its Operations and Maintenance Plan. For example, an operator may voluntarily choose to maintain a customer's buried piping, and include procedures for this activity in its Operations and Maintenance Plan. Because such maintenance is not specifically required by 49 CFR parts 192 or 195, the associated maintenance activities are not covered tasks.

4. *Tasks Affecting the Operation or Integrity of the Pipeline.* Under the final rule, covered tasks include only those activities that affect the operation or integrity of the pipeline.

The main purpose of the final rule is to ensure safety of pipelines through qualification of individuals. Initial discussions centered around safety-related activities and the need to categorize covered tasks as only

those activities having safety implications. Some Committee members argued that most of the provisions in parts 49 CFR 192 and 195 regulate safety-related activities. It would therefore be redundant to include the word “safe” on pipeline operations addressed under this criteria. Therefore, it was decided to use the phrase, “operation or integrity,” because some activities do not adversely affect the operation or integrity of the pipeline, even though they meet the other three criteria. The Committee decided to include a fourth criteria that must be satisfied for an activity to be a covered task, namely that the activity affects the operation or integrity of the pipeline.

The Committee discussed the term “operation” as used here in the safety context of normal versus abnormal operation, where the latter could result in an unsafe condition. For example, the control of flow and pressure in pipelines could result in abnormal operation, if the pressure is allowed to rise above an acceptable limit. Therefore, in this example, activities that include controlling flow and pressure on a pipeline system would be considered covered tasks if the other three criteria for covered tasks were met.

An additional example of an activity affecting the integrity of the pipeline would be coating or jacketing of aboveground pipeline components. In the event atmospheric corrosion is present, coating or jacketing the component could affect the integrity of the pipeline. However, painting a pipeline for aesthetic reasons would not affect the integrity of the pipeline.

The “integrity” of the pipeline refers to the pipeline's ability to operate safely and to withstand stresses imposed during operations. An example of a short-term effect on integrity would be exceeding the Maximum Allowable Operating Pressure (MAOP) for gas pipelines and Maximum Operating Pressure (MOP) for liquid pipelines. An example of a long-term effect would be failure from corrosion due to

improper coating after repair of a welded joint.

Because the term “pipeline facility” was used in the first criterion, the Committee also considered whether it would be appropriate to use the term “pipeline facility” in the fourth criterion instead of the term “pipeline.” Although some argued that consistency should be maintained, others stated that the primary goal of the final rule is to ensure the safe operation and integrity of the pipeline itself. Furthermore, the term “pipeline” as defined in 49 CFR parts 192 and 195 already encompasses the “facilities” targeted by the final rule. The Committee therefore agreed that this criterion should remain unchanged.

If an activity fails to meet any one of the four criteria, the activity would not be considered a covered task under this final rule. The following are hypothetical examples of how the four-part test can be used to identify a covered task:

**Example 1:** Leakage surveys on gas transmission pipelines.

(1) Performed on a pipeline facility? Yes, because leakage surveys are performed immediately above the pipeline and on the pipeline right-of-way.

(2) Is an operations and maintenance task? Yes, leakage surveys are conducted in the course of pipeline operations and maintenance activities.

(3) Is performed as a requirement of this part? Yes, leakage surveys are required by 49 CFR 192.706 and 192.723.

(4) Affects the operation or integrity of the pipeline? Yes, if a leakage survey is not properly conducted, a leak might not be detected, resulting in a potentially hazardous situation.

Since all four criteria are met, the leakage survey is a covered task.

**Example 2:** Measuring pipe-to-soil potentials.

(1) Performed on a pipeline facility? Yes, pipe-to-soil potentials are measured at cathodic test stations attached directly to the pipeline.

(2) Is an operations and maintenance task? Yes, pipe-to-soil potentials are read in the course of pipeline operations and maintenance activities.

(3) Is performed as a requirement of this part? Yes, pipe-to-soil potential measurements are required by 49 CFR 192.465 and 195.416.

(4) Affects the operation or integrity of the pipeline? Yes, pipe-to-soil potential measurements, if taken improperly, will not accurately reflect the level of cathodic protection being provided.

While not affecting the immediate operation of the pipeline, the future integrity of the pipeline might be jeopardized (for example, corrosion might develop), if inadequate cathodic protection is applied to the pipeline over a period of time.

Since all four criteria are met, the measurement of pipe-to-soil potentials is a covered task.

**Example 3: Meter reading.**

(1) Performed on a pipeline facility? Yes, a meter is a part of a pipeline facility.

(2) Is an operations and maintenance task? Yes, meters are read in the course of pipeline operations and maintenance activities.

(3) Is performed as a requirement of this part? No, meter reading is not a requirement of 49 CFR part 192 or part 195.

(4) Affects the operation or integrity of the pipeline? No, meter reading has no impact on pipeline operation or integrity.

Because meter reading fails at least one of the four criteria, meter reading is not considered a covered task.

In identifying covered tasks, operators must consider specific activities and not necessarily the job classification of individuals performing the activities, because each job classification may incorporate several activities. For example, an individual with the job classification, "meter reader," may be assigned activities other than reading a meter, such as distribution line pa-

trolling under 49 CFR Part 192.721, that could be covered tasks.

**D. Amendments to Section 195.403 (Training).**

Section 195.403 currently prescribes the training requirements for operations, maintenance, and emergencies for operators of hazardous liquid pipelines. Because the final rule includes a qualification process for operations and maintenance activities, but does not address emergency response qualification, 49 CFR §195.403 is amended to retain emergency response training requirements. This rule removes the specific operations and maintenance training requirements addressed in 49 CFR §195.403. Persons performing operations and maintenance tasks need to be qualified in accordance with the final rule. This amendment is not effective until October 28, 2002.

**VI. Definitions**

The definitions section of this final rule was developed to facilitate common understanding of key terms. The Committee began using a number of terms that were not commonly defined by all members. To facilitate communication, these terms were defined and are provided in the final rule.

*Abnormal operating condition.*

An abnormal operating condition, as defined in this final rule, is "a condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may:

(1) Indicate a condition exceeding design limits; or

(2) Result in a hazard(s) to persons, property, or the environment."

This definition is derived from Federal pipeline safety law (49 U.S.C. 60102) and from the pipeline safety regulations (49 CFR 192.605 (c)(1)(v) and 49 CFR 195.402(d)(1)(v)).

"Abnormal operating conditions" is also referenced in the definition of the term "qualified". To be qualified, an individual needs to be able to properly perform assigned covered tasks and be able to recognize and react to an abnormal operating condition that may be encountered while performing the covered task. For example, this may include notifying the responsible parties or taking corrective action to mitigate the condition.

As an example, an individual who has been qualified to perform leak surveys should be able to recognize and react to an abnormal operating condition such as blowing gas. Likewise, an individual who is qualified to perform control of gas pressure and flow should be able to recognize and react to an abnormal operating pressure in a pipeline segment.

Not all atypical operating conditions are abnormal. An example of an atypical operating condition that is not abnormal is a pipeline which can (not to exceed MAOP or MOP) operate up to 200 pounds per square inch (psig), but which typically operates at 50 psig. Operating this pipeline at 150 psig could be atypical, but not abnormal. If however the atypical operating condition would cause the pressure in the pipeline to exceed its allowable limits or cause a hazard to persons, property or the environment, an abnormal operating condition would result. A qualified individual performing control of gas pressure and flow who observes an unanticipated pressure increase in such a pipeline segment should know to investigate the cause of the change before it reaches the MAOP/MOP of the line.

*Evaluation*

An evaluation of an individual's ability to perform a covered task is the process that assesses and documents the individual's qualifications to perform the covered task. Although the definition lists several acceptable methods for evaluation, the list is not all-inclusive.

The evaluation of an individual's qualifications should be an objective, consistent process that documents an individual's ability to perform the covered task. This includes the individual's ability to recognize and react to abnormal operating conditions that the operator could reasonably antici-

pate the qualified individual will encounter while performing the covered task. The operator should establish the acceptance criteria for the evaluation method used (for example, for on-the-job training spell out the performance criteria; for a written exam establish the cutoff score). The following

table was developed in Committee discussion to illustrate acceptable evaluation methods for "transitional", "initial" and "subsequent" qualification, although these terms do not appear in the rule:

Evaluation method	"Transitional" qualification <sup>1</sup>	"Initial" qualification <sup>2</sup>	"Subsequent" qualification <sup>3</sup>
Written exam.	YES.	YES.	YES.
Oral exam.	YES.	YES.	YES.
Work performance history review.	YES.	May not be used as the sole evaluation method.	May not be used as the sole evaluation method after the three-year compliance date.
Performance on-the-job.	YES.	YES.	YES.
On-the-Job Training.	YES.	YES.	YES.
Simulation.	YES.	YES.	YES.
Other.	YES.	YES.	YES.

**Notes:**

<sup>1</sup> "Transitional" qualification means qualification completed by October 28, 2002, of individuals who have been performing a covered task on a regular basis prior to the effective date of the rule.

<sup>2</sup> "Initial" qualification means qualification, at any time, of individuals who were not performing a covered task on a regular basis prior to the effective date of the rule.

<sup>3</sup> "Subsequent" qualification means evaluation of an individual's qualification, after "transitional" or "initial" qualification, at the interval established by the operator.

Under 49 CFR §§ 192.809(c) and 195.509(c), a work performance history review may not be used as a sole evaluation method after October 28, 2002. "Transitional" qualification may rely on a work performance history review as the sole evaluation method. "Initial" qualification may not rely on only a work performance history review. "Subsequent" qualifications may rely on work performance history review if used in conjunction with at least one other evaluation method.

Prior to the three year compliance date operators may use work performance history review as the sole method for evaluation when qualifying individuals. After the three year compliance date, if work performance history review is used, it must be combined with at least one other form of assessment. Any of the other forms of assessment specified in the definition of evaluation may be used as the sole method of evaluation both before

and after the three year compliance date. When an operator has qualified an individual prior to the three year compliance date and used work performance history review as the sole method of evaluation, the operator is not required to re-evaluate each individual using additional criteria until the next scheduled evaluation, which may vary by covered task.

The operator must establish the parameters for the work performance history review. For example, a work performance history review may include:

(1) A search of existing records for documentation of an individual's past satisfactory performance of a covered task(s);

(2) verification that the individual's work performance history contains no indications of sub-standard work or involvement in an incident (part 192) or accident (part 195), caused by an error in performing a covered task; and,

(3) verification that the individual has successfully performed the covered task on a regular basis prior to the effective date of the rule.

### *Qualified*

*Qualified*, means that an individual has been evaluated and is able to properly perform a covered task(s), and recognize and react to abnormal operating conditions that may be encountered during the performance of the covered task(s). An individual may be qualified using any of the evaluation methods specified in the operator's written qualification program.

## **VII. Qualification program**

The Committee identified the following seven elements as requirements in the operator's qualification program:

Paragraph (a) of 49 CFR 192.805 and 195.505 requires opera-

tors to identify the covered tasks to be included in the qualification program. Whether an activity is a covered task would be determined using the four criteria in 49 CFR 192.801(b) or 195.501(b). Because operators are responsible for identifying covered tasks, variations among qualification programs are expected.

A concern of the Committee was whether periodic review of covered tasks should be required. Although a periodic review requirement was not included in the final rule, an operator may consider a periodic review to ensure the accuracy of its covered task list.

Paragraph (b) requires that the qualification program include provisions to ensure through evaluation that individuals performing covered tasks are qualified. This would set forth the evaluation methods to determine if an individual is qualified.

The Committee discussed contractor personnel and who is responsible for their qualification and compliance under this rule. Some members believed contractors should not be subject to this final rule and that OPS should be responsible for ensuring the qualification of contractor personnel. OPS does not have the authority to directly enforce compliance by contractors with this rule. The pipeline operator is responsible for all individuals working on their pipeline systems. This includes operator and contractor personnel.

The Committee discussed the role of those performing evaluations. Members agreed not to include a provision in the rule to require that evaluators be "qualified" to evaluate. However, persons performing evaluations should possess the required knowledge (1) to ascertain an individual's ability to perform covered tasks and (2) to substantiate an individual's ability to recognize and react to abnormal operating conditions that might

surface while performing those activities. This does not necessarily mean that the persons performing evaluations should be physically able to perform the covered tasks themselves.

The Committee discussed the concerns and options available to the operator regarding who should evaluate the individuals performing covered tasks. Because the operator is responsible for the development and implementation of the evaluation methods, the Committee thought that the operator should also be responsible for selecting appropriately knowledgeable individuals to perform evaluations. The final rule requires a qualification program that focuses on ensuring an individual can properly perform a covered task(s) rather than the credentials of persons conducting evaluations.

Paragraph (c) allows for performance of covered tasks by individuals who are not qualified as long as a qualified individual directly observes the non-qualified individual(s), and is able to take immediate corrective actions when necessary. For example, an operator may use a three-person crew to repair gas leaks. Two of the crew members could be non-qualified. The crew excavates and repairs leaking gas mains and services under the direct and close observation of the qualified member of the crew. The intent of this provision is to ensure that non-qualified individuals performing covered tasks are subject to close observation by a qualified individual. Ultimately, the qualified member of the crew is responsible for the repair. The ratio of non-qualified individuals to "qualified" individuals should be kept to a minimum.

Paragraph (d) requires the operator to evaluate an individual if the operator has reason to believe that the individual's performance of a covered task could have contrib-

uted to an incident as defined in 49 CFR part 191 or accident as defined in 49 CFR part 195. If so, the individual's qualification should be evaluated to determine if the individual continues to be qualified to perform the covered task.

Paragraph (e) requires the operator to evaluate an individual if there is reason to believe that the individual is no longer qualified to perform a covered task. This could occur if the individual displays unsatisfactory performance of the task or if there is reason to believe the individual can no longer perform the covered task. The operator's qualification program must include provisions for evaluating an individual's qualification if the circumstances warrant.

Paragraph (f) recognizes that changes may occur that impact how a covered task is performed. Changes that may need to be communicated to individuals performing covered tasks may include:

- Modifications to company policies or procedures.
- Changes in state or Federal regulations.
- Utilization of new equipment and/or technology.
- New information from equipment or product manufacturers.

The final rule requires that the qualification program include provisions for communicating information on substantive changes to the individuals performing the affected covered tasks. When significant changes occur, the operator should consider whether additional qualification requirements are necessary and whether individuals performing the covered task should be evaluated again.

Paragraph (g) addresses the identification of covered tasks, and the frequency of evaluation intervals for each covered task. The appropriate interval may vary depending on the covered task. It was therefore left to the operator to determine which covered tasks and

the interval at which subsequent qualification of an individual performing a covered task will occur. The Committee felt that the evaluation intervals could be specified in units of time, frequency of performance or other appropriate units. The Committee recognized that subsequent evaluation methods may differ from initial qualification methods.

This rule does not require that the written qualification program be incorporated into an operator's Operations and Maintenance Plan. The operator may expand any of the seven required elements and add additional elements to their program but will only be held accountable to meet the requirements of this Subpart.

### **VIII. Recordkeeping**

Under the final rule, each operator is required to maintain records that demonstrate compliance. The Committee had considerable discussion regarding records content, records to be retained, and length of retention.

The records that support an individual's qualifications must include the identity of each qualified individual (for example, name, social security number, or employee number), identification of each covered task for which qualified, date(s) of current qualification and qualification methods(s). Records of an individual's current qualifications must be maintained while the individual is performing the covered tasks for which qualified. When an individual is evaluated for subsequent qualification, the prior qualification records must be maintained for a period of five years. Also, when an individual stops performing a covered task (for example, the individual retires or is promoted) the individual's qualification records must be retained for a period of five years. The Committee selected five years

to be consistent with other regulatory time periods. The records may be kept in paper, electronic, or any other appropriate format. The records may be kept at a central location or at multiple locations.

The final rule does not address whether a certification or other record of qualification need be issued to each qualified individual. This matter is solely within the discretion of the operator.

### **IX. General**

Development and implementation of a qualification program will take some operators longer than others. Many operators currently have adequate processes or programs to ensure the qualification of individuals working on their pipeline systems. However, to ensure that this final rule is enforceable, definitive time frames must be specified. The Committee decided that 18 months would be sufficient time to develop a written qualification program.

An operator will have 38 months from the effective date of the final rule to complete the qualification of all individuals performing covered tasks on its system. This will allow operators with more limited resources and differing budget cycles adequate time to complete the qualification process. Those operators who are able to comply before the mandatory compliance date are encouraged to do so. The rule does not intend to penalize early compliance. Therefore, the starting time for subsequent evaluation intervals determined by the operator is not required to begin until the compliance date.

Finally, work performance history review will only be allowed as the sole method of evaluation during the three-year period prior to mandatory compliance with the rule. After this time, work performance history review will be an acceptable method of evaluating in-

dividuals only in combination with another evaluation method.

### **Rulemaking Analyses and Notices**

#### *Executive Order 12866*

This final rule is considered a significant regulatory action under section 3(f) of Executive Order 12866 and, therefore, is subject to review by the Office of Management and Budget. The final rule is considered significant under the Department of Transportation Policies and Procedures (44 FR 1103; February 26, 1979) because of the substantial interest expressed by the pipeline industry, state and Federal agencies, and Congress. This section summarizes the conclusions of the regulatory evaluation. Copies of the regulatory evaluation are available in the docket. Several groups, including the Congress, the National Transportation Safety Board, and the National Association of State Pipeline Safety Representatives, have called repeatedly for a pipeline personnel qualification rule.

This final rule is the product of a negotiated rulemaking in which representatives of all interested parties participated, including pipeline trade associations, pipeline operators both large and small, organized labor, state pipeline safety representatives, and the Federal government. The members of the negotiated rulemaking committee agreed that this process ensured adoption of a cost-effective standard for pipeline personnel qualification. The American Gas Association (AGA) and other participants in the negotiated rulemaking contributed to estimates of the cost of this proposal. RSPA adjusted the cost estimates to provide an annualized cost estimate for the entire pipeline industry. Based on an estimated 175,000 covered pipeline employees, including both operator employees and contractors, the

industry and the Committee identified three major cost categories for implementation and compliance with the rule by gas and hazardous liquid pipeline operators:

1. Cost for qualification program set-up, \$210 million
2. Cost of transitional evaluation and qualification, \$140 million
3. Cost of subsequent evaluation and qualification, \$87.5 million

RSPA determined that the program set-up costs should be amortized over 9 years. Therefore, RSPA amortized the set-up costs over 9 years using a 7% interest rate for an annualized cost of \$29.3 million for program development and initial qualification.

The transitional qualification costs were amortized over a six year period (three years before the effective date of the regulation that requires initial qualification, and an estimated three years before subsequent qualification) using a 7% interest rate for an annualized transitional qualification cost of \$28.6 million.

The Committee estimated that qualification for various covered tasks would be reviewed approximately every three years, although the length of time between evaluations for a particular covered task and pipeline operator might vary widely. Therefore, the next qualification (and each subsequent qualification) is amortized over three years at 7% or an annual subsequent qualification cost of \$32.4 million.

The result of these calculations is a cost of \$57.9 million per year for the years 1-6 (\$29.3 million + \$28.6 million) and a cost of \$61.7 million per year for years 7-9 (\$29.3 million + \$32.4 million). The average annual cost for compliance with the rule is approximately \$59 million.

The preamble to this final rule notes that the intent of the qualifi-

cation rule is to ensure a qualified workforce and to reduce the probability and consequences of accidents caused by human error. Investigations of pipeline incidents/accidents clearly attributable to human error often indicate either a deficiency of knowledge or skill (for example, lack of qualification) or an error in judgement on the part of pipeline personnel. However, the impact of inadequate qualification of pipeline personnel is not always apparent. For example, incidents/accidents that operators attribute to equipment failure or corrosion may actually have been set in motion by poorly performed operation or maintenance procedures. Although many state pipeline safety representatives have stated that this rule will reduce incidents/accidents by ensuring a qualified workforce, they concede that the task of quantifying that reduction is very difficult.

Perhaps the most important factor to consider when assessing the benefits of this rule is that human error is frequently not cited as an element contributing to an incident/accident. Available data does not always capture the contribution of human error to incidents/accidents. In 1997, there were 354 reportable pipeline incidents/accidents. Of these, 87 gas pipeline incidents and 40 hazardous liquid pipeline accidents were attributed to outside force damage. Although most outside force damage is caused by persons not covered by this rule—as when a third party disregards one-call procedures—damage sometimes results when a pipeline worker fails to follow one-call system procedures or from improper marking of the pipeline prior to excavation. Consequently, while third parties causing damage will not be better prepared to prevent pipeline damage, they will potentially reap the benefits of this rule by working around pipelines that are more clearly marked.

These scenarios show the difficulty in quantifying the benefits of this rule. Nonetheless, it is clear that some incidents/accidents could be avoided as a result of implementation of this rule, and that the cost of these incidents/accidents is substantial. Total outside force incidents/accidents resulted in 7 fatalities (\$19 million), 38 injuries (\$18.5 million), and \$27 million in property damage. This results in a total monetized loss of \$ 64.5 million in 1997. Monetization of fatalities and injuries employed DOT's "willingness to pay" estimates. Because the record keeping and reporting system of OPS lacks detailed data, it is not possible to accurately quantify the percentage of accidents that will be avoided as a result of this rule.

Although quantifying all the benefits of an operator qualification rule is impossible, most of the Committee members agreed that this rule, as written, is as cost beneficial as practicable, and RSPA believes that the overall benefits justify the costs of the rule. Furthermore, although relatively few fatalities and injuries occur each year from pipeline failures, the potential exists for significant, and very costly, disasters.

In addition, even a small reduction in overall pipeline expenses resulting from a fully-qualified workforce could result in significant savings that could offset the costs of this rule. If standardizing qualification procedures increases productivity and reduces operating expenses by one-half of one percent per year, the annual expenses of the major pipeline operators could drop by more than \$68 million (FERC Form 2, page 116, reports \$13.77 billion in total 1996 operating expenses for 53 large pipeline operators).

Other nonquantifiable benefits of this rule may include:

1. Reducing the likelihood of incorrectly following procedures;
2. Eliminating and correcting inadequate operating and maintenance procedures;
3. Reducing or eliminating the occurrence of sending inadequately prepared individuals into the field to perform covered tasks;
4. Increasing the formal communications between operator and workers;
5. Increasing the attention and oversight on safety-related procedures; and
6. Improving the documentation that ensures a qualified workforce.

These nonquantifiable benefits could translate into reduced operating expenses. Finally, documentation of a qualified workforce could improve operator public relations. RSPA provides further analysis for its conclusion that this rule will have a positive benefit/cost in its "Regulatory Evaluation," which is included in the docket.

#### *Regulatory Flexibility Act*

Under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.), RSPA must consider whether a rulemaking would have a significant economic impact on a substantial number of small entities. Based on the regulatory evaluation, RSPA has determined that the rule will not have a significant impact on a substantial number of small entities. The Committee unanimously agreed that all operators, regardless of size, should be subject to the final rule because the qualification of workers at both large and small pipeline operators can impact safety. One of the participants in the negotiated rulemaking was a representative of the American Public Gas Association (APGA). The APGA represents municipal gas distribution companies, the main group of small entities in the

pipeline industry. Hazardous liquid and gas transmission companies tend to be quite large. As a result, there are not a substantial number of small hazardous liquid pipeline entities. In conversations between RSPA and APGA, APGA indicated that as a trade association it would make itself available to assist its members in complying with this final rule.

As indicated in the regulatory evaluation, many resources exist to assist both small and large operators in compliance with this rule, including classes from DOT's Transportation Safety Institute, nonprofit industry associations, as well as for-profit companies. Additionally, while some costs, such as the development of the qualification program, are on a per company basis, the actual qualification will be on a per-employee basis. As a result, costs incurred by smaller companies should not be significant.

Further, the Committee considered the flexibility that this final rule allows in terms of permitting each company to tailor its worker qualification program to its own unique needs, and would allow small operators to interact with inspectors to evaluate and modify their qualification programs if necessary. Because of this flexibility, the availability of assistance in developing qualification plans, the fact that much of the cost will be proportionate to the number of employees, and the fact that very few small entities can be found among hazardous liquid and gas transmission companies, I certify that this final rule will not have a significant impact on a substantial number of small entities.

#### *Paperwork Reduction Act*

This Final Rule contains information collection requirements. As required by the Paperwork Reduction Act of 1995 (44 U.S.C.

3507(d)), the information collection requirements in the rule have been submitted to the Office of Management and Budget for their review and have been approved under OMB #2139-0600.

#### *Executive Order 12612*

This final rule has been analyzed with the principles and criteria in Executive Order 12612 ("Federalism") (52 FR 41685), and does not have sufficient federalism impacts to warrant the preparation of a federalism assessment.

#### *Unfunded Mandates Reform Act of 1995*

This final rule does not impose unfunded mandates under the Unfunded Mandates Reform Act of 1995. It does not result in costs of \$100 million or more to either State, local, or tribal governments, in the aggregate, or to the private sector, and is the least burdensome alternative that achieves the objective of the final rule.

#### *National Environmental Policy Act*

We have analyzed the final rule for purposes of the National Environmental Policy Act (42 U.S.C. 4321 et seq.). Requiring all gas and hazardous liquid pipeline operators to adopt the operator personnel qualification regulation should result in a reduction of pipeline incidents that are caused by human error. This should result in reduced fatalities, injuries, property damage, and environmental damage. Furthermore, this regulation will not have a detrimental impact on the environment. Thus, we have determined that the final rule will not significantly affect the quality of the human environment. An environmental assessment document is available for review in the docket.



### *Impact on Business Processes and Computer Systems*

Many computers that use two digits to keep track of dates will, on January 1, 2000, recognize "double zero" not as 2000 but as 1900. This glitch, the Year 2000 problem, could cause computers to stop running or to start generating erroneous data. The Year 2000 problem poses a threat to the global economy in which Americans live and work. With the help of the President's Council on Year 2000 Conversion, Federal agencies are reaching out to increase awareness of the problem and to offer support. We do not want to impose new requirements that would mandate business process changes when the resources necessary to implement those requirements would otherwise be applied to the Year 2000 Problem.

This final rule does not require business process changes or require modifications to computer systems. Because this final rule should not affect the ability of organizations to respond to the Year 2000 problem, we do not intend to delay the effectiveness of the rule changes.

### **List of Subjects**

#### *49 CFR Part 192*

Natural gas, Pipeline safety.

#### *49 CFR Part 195*

Anhydrous ammonia, Carbon dioxide, Hazardous liquids, Petroleum, Pipeline safety.

In consideration of the foregoing, RSPA amends 49 CFR Parts 192 and 195 as follows:

### **PART 192 AMENDED**

1. The authority citation for Part 192 continues to read as follows:

**Authority:** 49 U.S.C. 5103, 60102, 60104, 60108, 60109, 60110, 60113, and 60118; and 49 CFR 1.53.

2. Subpart N is added to read as follows:

- 192.801 Scope.
- 192.803 Definitions.
- 192.805 Qualification Program.
- 192.807 Recordkeeping.
- 192.809 General.

#### **192.801 Scope.**

(a) This subpart prescribes the minimum requirements for operator qualification of individuals performing covered tasks on a pipeline facility.

(b) For the purpose of this subpart, a covered task is an activity, identified by the operator, that:

- (1) Is performed on a pipeline facility;
- (2) Is an operations or maintenance task;
- (3) Is performed as a requirement of this part; and
- (4) Affects the operation or integrity of the pipeline.

#### **§192.803 Definitions.**

*Abnormal operating condition* means a condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may:

- (a) Indicate a condition exceeding design limits; or
- (b) Result in a hazard(s) to persons, property, or the environment.

*Evaluation* means a process, established and documented by the operator, to determine an indi-

vidual's ability to perform a covered task by any of the following:

- (a) Written examination;
- (b) Oral examination;
- (c) Work performance history

review;

- (d) Observation during:
- (e) Performance on the job,
- (f) On the job training, or
- (g) Simulations; or
- (h) Other forms of assessment.

Qualified means that an individual has been evaluated and can:

- (a) Perform assigned covered tasks; and
- (b) Recognize and react to abnormal operating conditions.

#### **§192.805 Qualification program.**

Each operator shall have and follow a written qualification program. The program shall include provisions to:

- (a) Identify covered tasks;
- (b) Ensure through evaluation that individuals performing covered tasks are qualified;
- (c) Allow individuals that are not qualified pursuant to this subpart to perform a covered task if directed and observed by an individual that is qualified;
- (d) Evaluate an individual if the operator has reason to believe that the individual's performance of a covered task contributed to an incident as defined in Part 191;
- (e) Evaluate an individual if the operator has reason to believe that the individual is no longer qualified to perform a covered task;
- (f) Communicate changes that affect covered tasks to individuals performing those covered tasks; and
- (g) Identify those covered tasks and the intervals at which evaluation of the individual's qualifications is needed.

#### **§192.807 Recordkeeping.**

Each operator shall maintain records that demonstrate compliance with this subpart.

(a) Qualification records shall include:

(1) Identification of qualified individual(s);

(2) Identification of the covered tasks the individual is qualified to perform;

(3) Date(s) of current qualification; and

(4) Qualification method(s).

(b) Records supporting an individual's current qualification shall be maintained while the individual is performing the covered task. Records of prior qualification and records of individuals no longer performing covered tasks shall be retained for a period of five years.

#### **§192.809 General.**

(a) Operators must have a written qualification program by April 27, 2001.

(b) Operators must complete the qualification of individuals performing covered tasks by October 28, 2002.

(c) Work performance history review may be used as a sole evaluation method for individuals who were performing a covered task prior to August 27, 1999.

(d) After October 28, 2002, work performance history may not be used as a sole evaluation method.

#### **PART 195—AMENDED**

3. The authority citation for Part 195 continues to read as follows:

**Authority:** 49 U.S.C. 5103, 60102, 60104, 60108, 60109, 60118; and 49 CFR 1.53.

4. Section 195.403 is revised to read as follows:

This section becomes effective October 28, 2002.

#### **§195.403 Emergency response training.**

(a) Each operator shall establish and conduct a continuing training program to instruct emergency response personnel to:

(1) Carry out the emergency procedures established under 195.402 that relate to their assignments;

(2) Know the characteristics and hazards of the hazardous liquids or carbon dioxide transported, including, in case of flammable HVL, flammability of mixtures with air, odorless vapors, and water reactions;

(3) Recognize conditions that are likely to cause emergencies, predict the consequences of facility malfunctions or failures and hazardous liquids or carbon dioxide spills, and take appropriate corrective action;

(4) Take steps necessary to control any accidental release of hazardous liquid or carbon dioxide and to minimize the potential for fire, explosion, toxicity, or environmental damage; and

(5) Learn the proper use of firefighting procedures and equipment, fire suits, and breathing apparatus by utilizing, where feasible, a simulated pipeline emergency condition.

(b) At the intervals not exceeding 15 months, but at least once each calendar year, each operator shall:

(1) Review with personnel their performance in meeting the objectives of the emergency response training program set forth in paragraph (a) of this section; and

(2) Make appropriate changes to the emergency response training program as necessary to ensure that it is effective.

(c) Each operator shall require and verify that its supervisors maintain a thorough knowledge of that portion of the emergency response procedures established under 195.402 for which they are responsible to ensure compliance.

#### **Subpart G—[Added]**

5. Subpart G is added to read as follows:

Sec.

195.501 Scope.

195.503 Definitions.

195.505 Qualification Program.

195.507 Recordkeeping.

195.509 General.

#### **§195.501 Scope.**

(a) This subpart prescribes the minimum requirements for operator qualification of individuals performing covered tasks on a pipeline facility.

(b) For the purpose of this subpart, a covered task is an activity, identified by the operator, that:

(1) Is performed on a pipeline facility;

(2) Is an operations or maintenance task;

(3) Is performed as a requirement of this part; and

(4) Affects the operation or integrity of the pipeline.

#### **§195.503 Definitions.**

*Abnormal operating condition* means a condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may:

(a) indicate a condition exceeding design limits; or

(b) result in a hazard(s) to persons, property, or the environment.

*Evaluation* means a process, established and documented by

the operator, to determine an individual's ability to perform a covered task by any of the following:

- (a) written examination;
- (b) oral examination;
- (c) work performance history

review;

- (d) observation during:
- (e) performance on the job,
- (f) on the job training, or
- (g) simulations; or
- (h) other forms of assessment.

Qualified means that an individual has been evaluated and can:

- (a) perform assigned covered tasks and
- (b) recognize and react to abnormal operating conditions.

#### **§195.505 Qualification program.**

Each operator shall have and follow a written qualification program. The program shall include provisions to:

- (a) Identify covered tasks;
- (b) Ensure through evaluation that individuals performing covered tasks are qualified;
- (c) Allow individuals that are not qualified pursuant to this subpart to perform a covered task if directed and observed by an individual that is qualified;
- (d) Evaluate an individual if the operator has reason to believe that the individual's performance of a covered task contributed to an accident as defined in Part 195;
- (e) Evaluate an individual if the operator has reason to believe that the individual is no longer qualified to perform a covered task;
- (f) Communicate changes that affect covered tasks to individuals performing those covered tasks; and
- (g) Identify those covered tasks and the intervals at which evaluation of the individual's qualifications is needed.

#### **§195.507 Recordkeeping.**

Each operator shall maintain records that demonstrate compliance with this subpart.

(a) Qualification records shall include:

- (1) Identification of qualified individual(s);
- (2) Identification of the covered tasks the individual is qualified to perform;
- (3) Date(s) of current qualification; and
- (4) Qualification method(s).

(b) Records supporting an individual's current qualification shall be maintained while the individual is performing the covered task. Records of prior qualification and records of individuals no longer performing covered tasks shall be retained for a period of five years.

#### **§195.509 General.**

(a) Operators must have a written qualification program by April 27, 2001.

(b) Operators must complete the qualification of individuals performing covered tasks by October 28, 2002.

(c) Work performance history review may be used as a sole evaluation method for individuals who were performing a covered task prior to August 27, 1999.

(d) After October 28, 2002, work performance history may not be used as a sole evaluation method.

Issued in Washington, DC, on August 20, 1999.

**Kelley S. Coyner,**  
*Administrator.*

[FR Doc. 99-22208 Filed 8-26-99;  
8:45 am]

BILLING CODE 4910-60-P